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ARRANGEMENT FOR CONTROLLING LEARNING OF LAYER 3 NETWORK ADDRESSES IN A NETWORK SWITCH

ABSTRACT OF THE DISCLOSURE

A network switch, configured for performing layer 2 and layer 3 switching in an Ethernet (IEEE 802.3) network without blocking of incoming data packets, includes a switching module for performing layer 2 and layer 3 switching operations, and a plurality of network switch ports, each configured for connecting the network switch to a corresponding subnetwork. One of the switch ports

5   serves as a router interface port for transferring data packets between the network switch and a router. The network switch, configured for performing learning of layer 2 addresses and layer 3 addresses of the data packets, has a learning bit for each network switch port. A host network controller disables the learning bit for the router interface port in compliance with IEEE 802.1d, preventing the switching module from performing any learning of layer 2 or layer 3 addresses for the data packets transferred

10   between the network switch and the router on the router interface port. Hence, the network switch can perform layer 3 switching operations for connected subnetworks, enabling the router to be bypassed; moreover, the disabling of the learning bit for the router interface port ensures that the router traffic does not over overwhelm the layer 2 and layer 3 address table within the network switch.